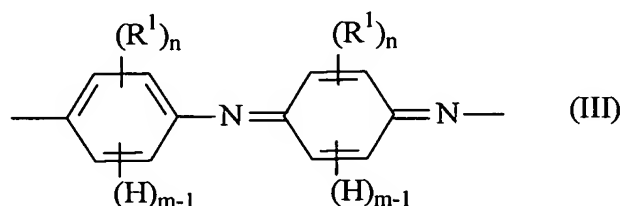
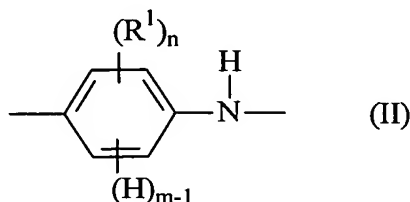


CLAIMS

What is claimed is:

1. A composition comprising an aqueous dispersion of at least one polyaniline and at least one colloid-forming polymeric acid.
- 5 2. A composition according to Claim 1, wherein said polyaniline has at least one aniline monomer units having a formula selected from Formula II or Formula III.



10

wherein:

n is an integer from 0 to 4;

m is an integer from 1 to 5, with the proviso that $n + m = 5$; and

- 15 R^1 is independently selected so as to be the same or different at each occurrence and is selected from alkyl, alkenyl, alkoxy, cycloalkyl, cycloalkenyl, alkanoyl, alkythio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxy carbonyl, arylsulfonyl, carboxylic acid, halogen, cyano, or alkyl substituted with one or more of sulfonic acid, carboxylic acid, halo, nitro, cyano or epoxy moieties; or any two R^1 groups together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms.

3. A composition according to Claim 2, wherein m is 5.
- 25 4. A composition according to Claim 1, wherein said colloid-forming polymeric acid is selected from polymeric sulfonic acids, polymeric

carboxylic acids, polymeric acrylic acids, polymeric phosphoric acids, polymeric phosphonic acid and mixtures thereof.

5. A composition according to Claim 1, wherein said polymeric acid comprises a fluorinated polymeric sulfonic acid.

5 6. A composition according to Claim 5, wherein said polymeric sulfonic acid comprises a perfluoroalkylenesulfonic acid.

7. The composition of Claim 1 further comprising at least one selected from a conductive polymer, metal particles, graphite fibers, graphite particles, carbon nanotubes, carbon nanoparticles, metal
10 nanowires, organic conductive inks, organic conductive pastes, inorganic conductive inks, inorganic conductive pastes, charge transport materials, semiconductive inorganic oxide nano-particles, insulating inorganic oxide nano-particles, piezoelectric oxide nano-particles, piezoelectric polymers, pyroelectric oxide nano-particles, pyroelectric polymers, ferroelectric
15 oxide nano-particles, ferroelectric polymers, dispersing agents, crosslinking agents and combinations thereof.

8. An electronic device comprising at least one layer comprising a composition comprising at least one polyaniline and at least one colloid-forming polymeric acid.

20 9. The layer according to Claim 8, wherein the composition has a pH greater than 3.5.

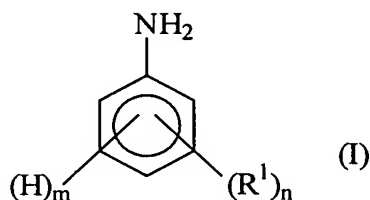
10. The device of Claim 8, wherein said device is a thin field effect transistor, a field effect resistance device, photosensor, photoswitch, light-emitting diode, light-emitting diode display, phototransistor, phototube, IR
25 detector, diode laser, electrochemic displays, electromagnetic shielding device, solid electrolyte capacitors, energy storage device, memory storage device, biosensor, photoconductive cell, photovoltaic device, solar cell or diode.

11. A method for producing an aqueous dispersion of at least one polyaniline comprising polymerizing aniline monomers in the presence of
30 at least one colloid-forming polymeric acid.

12. A method of Claim 11, further comprising forming a combination of water, aniline monomer, colloid-forming polymeric acid, an oxidizing agent, and optionally a catalyst, in any order, provided that at least a
35 portion of the colloid-forming polymeric acid is present when at least one of the aniline monomer and the oxidizing agent is added.

13. A method according to Claim 11, wherein the polymeric acid is selected from polymeric sulfonic acids, polymeric carboxylic acids,

polymeric acrylic acids, polymeric phosphoric acids, polymeric phosphonic acid, and mixtures thereof and wherein said aniline monomer has Formula I



5

wherein:

n is an integer from 0 to 4;

m is an integer from 1 to 5, with the proviso that $n + m = 5$; and

R¹ is independently selected so as to be the same or different at each
 10 occurrence and is selected from alkyl, alkenyl, alkoxy, cycloalkyl, cycloalkenyl, alkanoyl, alkythio, aryloxy, alkylthioalkyl, alkylaryl, arylalkyl, amino, alkylamino, dialkylamino, aryl, alkylsulfinyl, alkoxyalkyl, alkylsulfonyl, arylthio, arylsulfinyl, alkoxycarbonyl, arylsulfonyl, carboxylic acid, halogen, cyano, or alkyl substituted with one or more of sulfonic acid, carboxylic acid, halo, nitro, cyano or epoxy moieties; or any two R¹ groups
 15 together may form an alkylene or alkenylene chain completing a 3, 4, 5, 6, or 7-membered aromatic or alicyclic ring, which ring may optionally include one or more divalent nitrogen, sulfur or oxygen atoms.

14. A method according to Claim 13, wherein said polymeric acid
 20 comprises a fluorinated sulfonic acid.

15. A method according to Claim 13, wherein said method further comprises the addition of an oxidizing agent selected from ammonium persulfate, sodium persulfate, potassium persulfate, and mixtures thereof.

25 16. A method according to Claim 13, wherein the method further comprises the use of a catalyst selected from ferric sulfate, ferric chloride, and mixtures thereof.

30 17. A method according to Claim 13, wherein the combination further comprises a co-dispersing liquid selected from ethers, alcohols, alcohol ethers, cyclic ethers, ketones, nitriles, sulfoxides, amides, and combinations thereof.

18. A method according to Claim 13, wherein the combination further comprises a co-acid selected from a water-soluble inorganic acid, a

water-soluble organic acid, a colloid-forming polymeric acid, and combinations thereof.

19. A method according to Claim 13, wherein the method further comprises contacting a reaction product with at least one ion exchange resin.

20. An organic electronic device comprising a buffer layer deposited from an aqueous dispersion of polyaniline and at least colloid-forming polymeric acid.

21. The device of Claim 20 wherein said device is a thin field effect transistor, a field effect resistance device, a photosensor, photoswitch, phototransistor, biosensor, phototube, IR detectors, photovoltaic device, photoconductive cell, solar cell, biosensor, light-emitting diode, light-emitting diode display, diode laser, electrochromic display diode, solid electrolyte capacitors, energy storage device, or memory storage device.